

ABSTRACT

In a hydrocracking unit, the flash gases from the high-pressure separator are fed to the bottom of an absorption zone where the entering gases are counter-currently contacted with a lean solvent. The lean solvent absorbs away the contained methane, ethane, propane, butanes and pentanes ($C_1 +$) from the contained hydrogen. The overhead gas stream from the absorption zone typically contains hydrogen at a purity of 90 to 98 mol%, or even higher, which is fed to the recycle gas stream to provide hydrogen purity in the range of 96 to 99 mol%, thereby providing an increase in the overall efficiency of the hydroprocessor unit. The process can also be employed with hydrotreating, hydrodesulfurization, hydrodenitrogenation and hydrodealkylation reactors.

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